

# What is Claimed is:

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- [c1] A test structure comprising:  
an array of cells; and  
conductive lines connecting said cells together,  
wherein said conductive lines connect said cells together as if they were a single cell.
  - [c2] The test structure in claim 1, wherein said conductive lines comprise at least one of:  
a common word line;  
a common bit line;  
a common bit line complement line;  
a common N-well voltage line;  
a common interior ground line;  
a common interior voltage line; and  
a common ground line.
  - [c3] The test structure in claim 1, wherein each of said conductive lines includes an individual test pad, wherein by connecting to each said test pad, said array can be tested for current leakage as if said array were an individual cell.
  - [c4] The test structure in claim 2, further comprising at least one of:  
a word line contact pad connected to said common word line;  
a bit line contact pad connected to said common bit line;  
a bit line complement contact pad connected to said common bit line complement line;  
a voltage contact pad connected to said common N-well voltage line;  
an interior ground contact pad connected to said common interior ground line;  
an interior voltage contact pad connected to said common interior voltage line; and  
a ground line contact pad connected to said common ground line.
  - [c5] The test structure in claim 1, wherein said array of cells comprises a plurality of memory cells, word lines, bit lines, voltage lines, and ground lines, and wherein said conductive lines:  
join all word lines within said array as a single word line;  
join all bit lines within said array as a single bitline;  
join all voltage lines within said array as a single voltage line; and  
join all ground lines together within said array as a single ground line.

- [c6] The test structure in claim 1, wherein applying a voltage to one conductive line of said conductive lines charges all elements connected to said conductive line within said array.
- [c7] The test structure in claim 6, wherein measuring a current on one conductive line of said conductive lines measures an average current on all elements connected to said conductive line within said array.
- [c8] A test structure comprising an array of cells connected together by conductive lines, wherein said conductive lines connect said cells together as if they were a single cell, said conductive lines comprising at least one of:
- a common word line;
  - a common bit line;
  - a common bit line complement line;
  - a common N-well voltage line;
  - a common interior ground line;
  - a common interior voltage line; and
  - a common ground line.
- [c9] The test structure in claim 8, wherein each of said conductive lines includes an individual test pad, wherein by connecting to each said test pad, said array can be tested for current leakage as if said array were an individual cell.
- [c10] The test structure in claim 8, further comprising at least one of:
- a word line contact pad connected to said common word line;
  - a bit line contact pad connected to said common bit line;
  - a bit line complement contact pad connected to said common bit line complement line;
  - a voltage contact pad connected to said common N-well voltage line;
  - an interior ground contact pad connected to said common interior ground line;
  - an interior voltage contact pad connected to said common interior voltage line; and
  - a ground line contact pad connected to said common ground line.
- [c11] The test structure in claim 8, wherein said conductive lines:
- join all word lines within said array as a single word line;
  - join all bit lines within said array as a single bitline;
  - join all voltage lines within said array as a single voltage line; and

join all ground lines together within said array as a single ground line.

- [c12] The test structure in claim 8, wherein applying a voltage to one conductive line of said conductive lines charges all elements connected to said conductive line within said array.
- [c13] The test structure in claim 12, wherein measuring a leakage current on one conductive line of said conductive lines measures an average leakage current on all elements connected to said conductive line within said array.
- [c14] A method of testing an array structure using conductive lines to connect cells within said array, said method comprising joining at least one of:
  - all word lines within said array as a single word line;
  - all bit lines within said array as a single bitline;
  - all voltage lines within said array as a single voltage line; and
  - all ground lines together within said array as a single ground line;placing a charge on one or more of said conductive lines; and measuring a charge leakage on others of said conductive lines.
- [c15] The method in claim 14, wherein said joining of said voltage lines includes:
  - joining all N-wells to a single voltage line; and
  - joining all interior voltages of said cells to a single interior voltage line.
- [c16] The method in claim 14, wherein said joining of said ground lines includes:
  - forming a connection to a substrate of said array; and
  - joining all interior grounds of said cells to a single interior ground line.
- [c17] The method in claim 14, wherein applying a voltage to one conductive line of said conductive lines charges all elements connected to said conductive line within said array.
- [c18] The method in claim 14, wherein measuring current on one conductive line of said conductive lines measures an average leakage current on all elements connected to said conductive line within said array.